

Remarks:

This amendment is submitted in an earnest effort to advance this case to issue without delay.

Claim 1 has been amended by insertion into it of the subject matter of claim 8. In addition "tensile force" has been replaced with "tension" for uniform use of terminology. Thus entry of this amendment after final action is in order.

Claims 8, 18, and 19 have been canceled. This reduces the number of issues.

The requirement for new drawings is incorrect in that the invention as claimed is shown in the drawing. More particularly claim 1 describes as shown in FIGS. 1 and 2 a system for protecting buildings or structures against external influences with wire cables 23 (FIG. 2) that are placed under tension over and adjacent at least a part of the building or structure 21, the system comprising

ends or extensions 14 (FIG. 1) of the cables 23 of a predetermined cross-sectional size and made of a predetermined material; and  
respective clamping bodies 10 each having a guide passage receiving the respective end or extension 14 and

shaped such that when tension in the respective cable 23 is increased the reaction force presented by the clamping body 10 is increased generally proportionally to the tension, the passage having a frustoconical inside surface 11 that narrows progressively in the direction 15 (FIG. 1) of the tension, the clamping bodies 10 being made of a material that is harder than the material of the end or extension 14 of the respective cables 23, the wire cable 23 or the extension thereof having a continuous broadening engaging the inside surface 11.

Thus everything in claim 1 that is susceptible of illustration is shown in the drawing and no new drawing is needed.

Contrary to the position taken by the examiner the present invention is not anticipated by the prior art. As shown in FIG. 1 in this case tension in the direction of arrow 15 is opposed by the conicity of the cable with a force that increasingly resists pulling of the cable out of the guide 10. To this end the guide 10 has a tapering surface 11 whose angle matches the conicity of the widened cable portion 16. If the cable is put under tension the tapered surface 11 of the guide 10 forms a stop.

In order to avoid rupture of the cable that is tensioned for example by an aircraft collision, the cable end is made softer

than the guide 10. Under these circumstances the cable cannot be pulled out of the guide because plastic deformation of the cable is only possible in the region under (as seen in the drawing ) the conical guide. Due to the greater hardness of the guide relative to the cable, this cable is not blocked by the stop, but can move limitedly therein. (Of course any body, in particular a cable when tensioned, is longitudinally deformable to a point at which it breaks. In this case there is however an additional cable deformation because of the different hardnesses that to a certain extent permit a limited pulling of the cable out, so that the cable is protected before it reaches a tension sufficient to break.)

The main argument of the examiner, that the material for a cable guide or clamp is usually harder than the cable is not correct, since a roughly equivalent hardness is sufficient. It is important in the cited art that wedging of the cable ends is purely the effect of friction produced in that the clamp jaws act transversely to the longitudinal extent of the cable on the cable. In the instant invention such clamping jaws are not provided, but instead guides with conical abutments that are harder than the cable, and the guides 10 work principally in that the cable is fixed in the guide. The basic idea of the present invention is that plastic deformation of the cable makes possible a limited pulling of the cable out of the guide. Such a concept is not disclosed or suggested by the art.

With respect to the cited art:

It is correct that DE 203 02 249 of Mueller shows a building protection system with tensioned cables fixed at their ends in energy-absorbing devices 42. The energy-absorbing devices are tension springs whose resistance increases proportionately with increasing tension at least over a limited range.

Above all the examiner stresses the teachings of US 6,487,757 of Stubler. FIG. 4 to 6 of this reference show a five-row arrangement of cables 9, altogether nineteen cables, that fit in a clamp shown in FIG. 3. This clamp is comprised of an assembly 15 whose semicircular grooves form circular holes in which the nineteen cables 9 fit, with friction holding them. This friction is created as shown in FIGS. 4 and 6 by wedges 27 and 28 on the outside of the body 15 of FIG. 3 whose individual layers are pressed against one another so that the wedges 27 and 28 clamp the cables in the respective openings. This is just a wedging of an elongated cylindrical body 11, the wedge angle of the wedges 27 and 28 forming the taper angle of the openings of the body 11. In this arrangement no plastic deformation of the held cables is possible. Tensioning of the cables leaves them solidly fixed in the holder 11, so that when the stretch-to-break limit is exceeded the cables rupture. In contrast thereto with the instant invention the tapered opening of the guide and the complementarily shaped cable (see FIG. 1) is clearly novel, since there the guides are

cylindrical or of uniform cross section and the cables are of similarly uniform cross section.

As already mentioned, according to Stubler a hardness the same as the cable is all that is needed in the holder in order to obtain the desired fixation for the cable end. The position of the examiner that the cable is always softer than the clamp is purely speculative.

Claims 4-7 and 9 described further features in combination with claim 1 that lead to further advantageous functions of the invention of FIG. 1. The feature of claim 7 - the would up cable end - is seen nowhere in the art. This leads to the cable the cable diameter on the outer end is only slightly bigger than the conical guide so that as it deforms a rather long portion of the cable is pulled through the cable. In order not to release the very end of the cable, it is rolled up.

Claims 10 to 17 relate to various cable guides and arrangement son the building being protected. Thus according to claim 10 one or more cables are connected on the facade near the room, for example by winding, so that the cables can if needed be unwound and anchored on the ground in respective anchors. These anchors of course have the tapered holes in guides for the cables as recited in claim 1. Claims 11 and 12 describe variations of the cable holders. Claims 13 to 15 describe cable arrangements that can be moved into arrays like what is shown in FIGS. 2 to 7.

Thus the instant invention is clearly allowable over the cited art. Notice to that effect is earnestly solicited.

If only minor problems that could be corrected by means of a telephone conference stand in the way of allowance of this case, the examiner is invited to call the undersigned to make the necessary corrections.

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Enclosure:

None.